

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

SOL IP, LLC,

Plaintiff,

v.

AT&T MOBILITY LLC,

Defendant.

v.

SPRINT COMMUNICATIONS CO L.P.,

SPRINT SOLUTIONS, INC., and

SPRINT SPECTRUM L.P.,

Defendants.

v.

CELLCO PARTNERSHIP d/b/a/ VERIZON

WIRELESS,

Defendants.

v.

ERICSSON INC.,

Intervenor.

Civil Action No. 2:18-cv-00526-RWS-RSP

CONSOLIDATED LEAD CASE

JURY TRIAL DEMANDED

Civil Action No. 2:18-cv-00527-RWS-RSP

Civil Action No. 2:18-cv-00528-RWS-RSP

**SOL IP'S REPLY CLAIM CONSTRUCTION BRIEF
FOR "LTE GROUP B" PATENTS**

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I. INTRODUCTION

None of the disputed terms requires construction. Each has a clear, undisputed meaning—either in the art or in plain English—with no ambiguity needing resolution. Defendants fail to address this fact. Instead, the introduction to defendants’ brief promises explicit definitions or disclaimers to justify their constructions. Defendants overpromise and underdeliver. Their arguments rely on language that is hazy at best while ignoring more probative evidence and binding Federal Circuit precedent. The Court should adopt the straightforward constructions that Sol IP proposes.

II. REPLY ARGUMENT

A. Disputed Terms in the ’031, ’976, and ’204 Patents

1. “*Cell search*” *preambles*

“Cell search” in the preambles of claims 1 and 8 of the ’031 Patent is not limiting and certainly does not mean the targeted base station must have “the largest reception signal.” To be clear, Sol IP’s allegations apply these claims specifically to cell search. *See, e.g.*, Dkt. No. 100 ¶ 118 (operative complaint accusing devices “configured to perform cell searches in accordance with LTE Release 8 (or later)”). This belies defendants’ argument that Sol IP is seeking “to excise cell search” from the claims. Dkt. No. 225, at 4.

Rather, it is defendants who are seeking to change the focus of the claims by attempting to misconstrue “cell search” to include concepts *nobody* in the field understands to be part of that term. Dr. Wells explains that “cell search is a well-known concept” in the art involving obtaining synchronization information for the target cell. Wells Rebuttal Decl. ¶ 92; Wells Decl. ¶¶ 106 & 108. Even the WCDMA standard defines cell search in terms of synchronization with a target cell, not the selection of that target cell (much less selection based on size of signal). Wells Decl.

¶ 108; Dkt. No. 206, at 6–7 & n.4. Defendants do not refute this, and their expert offers no opinion or rebuttal about the meaning of “cell search” in the art.

Defendants’ failure to rebut the plain and ordinary meaning of “cell search” is dispositive. “Claim terms are generally given their ordinary meaning as understood by persons skilled in the art in question at the time of the invention. The plain meaning of claim language ordinarily controls” *InterDigital Commc’ns, LLC v. Int’l Trade Comm’n*, 690 F.3d 1318, 1324 (Fed. Cir. 2012). For lexicography to supersede the plain meaning, the patentee “must clearly set forth a definition of the disputed claim term ***other than its plain and ordinary meaning***” and must “clearly express an intent” to redefine the term.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (emphasis added).

Here, nothing suggests the patentee was seeking to redefine “cell search.” The specification language defendants rely on describes—as a discussion of “**Background Art**”—a **prior art** process, concluding with the sentence: “This process is referred to as cell searching method of the mobile station.” Such language does not signal a **redefinition** of a term having an existing meaning in the art, nor does it suggest the reference to “the largest reception signal” is part of the affirmative meaning of the term. That reference appears in a parenthetical, suggesting at most the fact that the **cell selection** process normally picks the cell with the largest signal, and the mobile device then performs **cell search** on it.¹

Ericsson’s training document reveals the game defendants are playing. It shows how everyone in the art understands that cell search is **not** about selecting the cell with the largest signal—including not just defendants’ expert (who offers no opinion on this) and Dr. Wells (who

¹ Defendants’ suggestion that Sol IP believes the parenthetical to be definitional is nonsensical. See Dkt. No. 225, at 6 n.3. Dr. Wells only refers to **defendants’ expert’s** characterization of language as a “definition.” Defendants ignore that he affirmatively refutes the idea that the parenthetical is part of the meaning of “cell search.” See Wells Decl. ¶ 108.

does), but the parties themselves. It clearly distinguishes between cell search (synchronization with a cell) and cell selection (finding “a suitable cell”). Shih Decl. Ex. B11, at 100–02. This illustrates the weakness of defendants’ argument based on the parenthetical: The argument has no basis in reality.

Furthermore, regardless of its meaning, “cell search” is not limiting. Defendants cannot show that limiting the claims to “cell search” is necessary to understand them. The claim bodies are structurally complete, and “cell search” merely reflects an intended use of the invention. *See Arctic Cat Inc. v. GEP Power Products, Inc.*, 919 F.3d 1320, 1328–29 (Fed. Cir. 2019) (finding “personal recreational vehicle” non-limiting in preamble reciting “power distribution module for a personal recreational vehicle” because claim body “defines a structurally complete invention” and the term “merely identifies an intended use for the claimed power distribution module”). Defendants’ only argument is that *another* preamble term—“wireless communication system”—is the antecedent for something in the body. Dkt. No. 225, at 4–5. That may bear on whether the claims are limited to the context of a wireless communication system, but not on “cell search.” The limiting effect of preamble language is assessed on a term-by-term basis. *See Georgetown Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229, 1234 (Fed. Cir. 2017) (finding “mounted on a vehicle” non-limiting in preamble reciting “system for inspecting a railroad track bed, including the railroad track, to be mounted on a vehicle for movement along the railroad track,” even though “railroad track bed” was the antecedent for elements in the claim body). “Cell search” is not the antecedent of anything in the claims, so it is not limiting.

2. “Cell group” and “group of cells”

Defendants’ brief—like their expert’s declaration—avoids any discussion of what “specified in the wireless communications system as a group” means. This is telling because the absence of such meaning was *the main argument* in Sol IP’s opening brief. Dkt. No. 206, at 9.

Defendants apparently concede—as they must—that the patents never refer to any groups being “specified in the wireless communications system,” and further that this language has no meaning for a POSITA. *See id.*; Wells Decl. ¶ 112; Wells Rebuttal Decl. ¶ 98. There can be no clearer reason for rejecting defendants’ construction.

Defendants’ argument that Sol IP’s construction would allow a group to be “any random plurality of cells” holds no water. *See* Dkt. No. 225, at 13. The claims call for the mobile device to determine the cell ID based on the recited synchronization sequences. *See, e.g.*, ’031 Patent claims 1, 3; ’204 Patent claim 7. If the group were random, that would not be possible. Indeed, as Sol IP noted in its opening brief—in an argument again ignored (and apparently conceded) by defendants—the patent allows cell identifiers to be derived formulaically, rather than based on some directory or database never mentioned in the patents or the art. *See* Dkt. No. 206, at 9. In short, there is no support for defendants’ vague and extraneous limitation.

3. “*Synchronization sequence*” terms

Defendants’ argument heading says it all: “Every claimed embodiment requires . . .” Dkt. No. 225, at 7. That is their *only* argument for these terms. The law is clear: A limitation may not be imported into the claims even when every embodiment is so limited (not the case here). *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (“Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’”).

Defendants do not claim that these phrases lack a plain and ordinary meaning. Nor do they suggest that any words in those phrases—such as “partial,” “remaining,” or “identified

based on”—support their constructions. Defendants do not even argue these phrases are ambiguous. Rather, they seek to rewrite unambiguous claim language.²

Unable to rebut the truth that “[n]othing in the claims imposes or even suggests” the limitations defendants propose, Dkt. No. 206, at 11, defendants attack the evidence Sol IP cites. Defendants dismiss the dependent claims as added during prosecution—ignoring that they were added *at the same time* as the independent claims, making their probative value on the construction of those independent claims all the stronger. Defs.’ Ex. 1, at 2–3 (e.g., claims 34, 36, and 37). The dependent claims show beyond question that defendants’ construction was not intended.³ Dkt. No. 206, at 12. Defendants argue “a dependent claim cannot change the scope of an independent claim whose meaning is clear on its face,” which is an odd point to make. Dkt. No. 225, at 9. The claims *do* have a clear meaning—one indisputably contrary to defendants’ constructions—and the dependent claims *confirm* it.

Defendants then contest the applicability of the patent specification’s clear teaching that the roles of the PSS and SSS may be flipped. Defendants argue the specification merely contemplates that cells may be identified based on a “row” and “column” of a conceptual grid and teaches “revers[ing]” the steps. Dkt. No. 225, at 10–11. Exactly. The specification teaches that this grid may be transposed, such that the SSS identifies a group and the PSS specifies a member of the group. Thus, the specification teaches the embodiments addressed by the

² Nothing supports defendants’ assertion that construing terms to “bestow claim scope that exceeds the specifications’ written descriptions [would] render them indefinite.” Dkt. No. 225, at 8. *Geneva Pharmaceuticals* rejected an indefinite construction but *did not* suggest claims are limited to the patent specification.

³ Defendants insinuate—without arguing—that the dependent claims improperly “expand[ed] the scope of the patent.” Dkt. No. 225, at 9–10. Defendants make no effort to prove this, and in any event it is irrelevant to claim construction.

dependent claims. In any event, defendants' constructions fail from the outset because the claim language is unambiguous and does not have the limitations they propose.

B. Disputed Terms in the '565, '571, '064, '438, and '435 Patents

I. *"Short sequence"*

As Sol IP's opening brief explained, "short sequence" does not require construction. The word "short" merely refers to length limitations implied elsewhere in the claims. Indeed, the patentee used "short" to avoid any potential confusion between the various recited "short sequences" and "scrambling sequences."

To understand the dispute, it is helpful to consider its history and context. Defendants originally proposed to construe this term as "indefinite" (apparently by viewing "short" as a term of degree), without offering any alternative construction. Shih Reply Decl. Ex. B12, at A-6. Sol IP's construction was "plain and ordinary meaning" or, alternatively, "binary sequence (or binary code) representing cell group information." Shih Reply Decl. ¶ 4. This reflects the meaning implied by the claim (*see, e.g.*, '565 Patent 14:44–45) using language taken verbatim from the specification. Apparently recognizing the untenability of their position, defendants retrenched to their current construction that imports many limitations from the specification.

Yet added specificity about the length of a "short sequence" is not what defendants seek. The sequences in the accused standards are *exactly* the length described in the patent specification.⁴ It is now clear that defendants seek to sow confusion by requiring "a length corresponding to half the number of sub-carriers allocated to *the secondary synchronization channel*" (SSC), introducing a term with no antecedent into the claims.

⁴ The patent states: "In the exemplary embodiment . . . the number of sub-carriers allocated to the secondary synchronization channel is 62. . . . Accordingly, the short sequence length according to the exemplary embodiment of the present invention is 31." '565 Patent, 7:17–19. The accused standard states the same numbers. Shih Reply Decl. ¶ 2.

The claims avoid any reference to an SSC. For example, claim 1 of the '565 Patent recites: "*a first short sequence* scrambled with a first scrambling sequence *and a second short sequence* scrambled with a second scrambling sequence and a third scrambling sequence *are included in the secondary synchronization signal and are alternately disposed on a plurality of sub-carriers.*" This already means each of the two short sequences occupies half the sub-carriers used by the secondary synchronization signal (SSS)—and that should have been enough if defendants were after a limit on the length of a short sequence. There is no need to refer to an SSC because the claim is self-contained: It relates the short sequences to the SSS, not any SSC.

Defendants conspicuously avoid proposing a construction of SSC.⁵ They want to keep the meaning ambiguous, evidently to make a noninfringement argument. Defendants—projecting *their* motivations (Dkt. No. 225, at 18)—suggest that Sol IP treats these claims as a “nose of wax” when in fact *defendants* seek to *add* ambiguity to otherwise clear claims. The Court should reject defendants’ effort.

The Federal Circuit has recognized that “an inherent tension exists as to whether a statement is a clear lexicographic definition or a description of a preferred embodiment. The problem is to interpret claims ‘in view of the specification’ *without unnecessarily importing limitations* from the specification into the claims.” *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (emphasis added). “Short sequence” does not require construction—certainly not one limiting its length based on specification language defendants don’t deny is prefaced as describing “an *exemplary embodiment*” (and *not* “the present invention”). Incorporating the language defendants propose—in particular, reference to an undefined and unrecited SSC—would be the epitome of “unnecessarily importing limitations.”

⁵ As used in the patent specification, SSC refers to the sub-carriers used for the SSS. *See generally* Wells Decl. ¶¶ 125–129; '565 Patent figs. 2 & 3, 3:50–55, 5:33–51.

Defendants do not deny that the specification language they point to was never used to distinguish prior art. *See* Dkt. No. 206, at 14; *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1350 (Fed. Cir. 2014), *judgment vacated on other grounds*, 135 S. Ct. 1846 (2015) (rejecting argument that specification language was definitional, noting that “nothing in the specification or the prosecution history shows an attempt to distinguish over prior art”). Moreover, they cite no case requiring every adjective-noun combination to be construed, and cases cautioning against rendering elements superfluous are inapposite.⁶ “Short” is not an affirmative limitation—e.g., the claims do not recite “a sequence that is short”—but a reference to the shortness of the sequence as implicit in the claims, so nothing is rendered superfluous by its plain and ordinary meaning. The claims are fully defined without limits on “short sequence” tied to an SSC. *Cf. Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 992 (Fed. Cir. 1999) (holding that “ordinary and accustomed meaning” applied to “heading signal,” rejecting argument that “heading” required limiting construction). Accordingly, the Court should adopt Sol IP’s construction.

2. “*Scrambled*”

Again, defendants seek a limiting construction for a claim term that has no ambiguity. As Sol IP pointed out in its opening brief, a POSITA “would understand that scrambling in digital communications is a well-known concept, whereby a data stream is altered in a controlled way prior to transmission, in order to change the characteristics of the scrambled signal.” Wells Decl.

⁶ In *Merck*, the court rejected a proposed construction of “about” that would have “render[ed] **other** parts of the claim superfluous.” *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (emphasis added). And in *Bicon*, the court rejected a proposed construction of “an abutment” that similarly would have rendered **another** part of the claim (“a frusto-spherical basal surface portion”) superfluous. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 951 (Fed. Cir. 2006).

¶ 136. Defendants' expert offers no contrary opinion. *See* Haimovich Decl. ¶ 46 *et seq.* And defendants' brief does not dispute this point.

Unable to refute the undisputed meaning of "scrambled" in the applicable field, defendants allege one sentence in a foreign priority application acts as a disclaimer. They put more weight on that one sentence than it can bear. As a preliminary matter, defendants point to no authority holding that foreign application language akin to what they rely on here justifies the importation of limitations undisputedly not present in the claim language. Further, the language defendants point to does not come close to being an "unmistakable disclaimer" of the scope of the term "scrambled." Defendants' only hook for the relevance of this language is words translating to "present invention." But these are not talismanic words. The idea that "present invention" language may be limiting "should not be interpreted as any sort of hard rule regarding claim construction. Every claim construction, and each potential disclaimer, has to be considered in the context of each individual patent." *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1358 (Fed. Cir. 2016).⁷

"Present invention" language may be limiting when it describes the invention **as a whole**. Defendants cite the *Minnesota* case for that proposition: "When a patent thus describes the features of the 'present invention' **as a whole**, this description limits the scope of the invention." *Regents of Univ. of Minnesota v. AGA Med. Corp.*, 717 F.3d 929, 936 (Fed. Cir. 2013) (emphasis added); Dkt. No. 225, at 20. "But this principle has no application where, as here, the other statements and illustrations make it clear that the limitations **do not** describe the invention **as a**

⁷ *Pacing Technology*, which defendants cite, cannot be read otherwise. *Indus. Print Techs., LLC v. Cenveo, Inc.*, No. 3:15-CV-00165-M, 2016 WL 3660593, at *67 (N.D. Tex. Feb. 12, 2016) ("Whether the patentee provided a clear and unmistakable disclaimer is always evaluated in the context of the intrinsic evidence before the Court. *Pacing Technology* did not change this well-established precedent, or hold that 'present invention' language is always a disclaimer.").

whole.” *Creative Integrated Sys., Inc. v. Nintendo of Am., Inc.*, 526 F. App’x 927, 933 (Fed. Cir. 2013) (emphases added).

The language defendants rely on only states that “in order to solve these two problems, the present invention proposes a method of multiplying the above-mentioned upper/lower binary codes by the scrambling code.” Dkt. No. 225, at 20. That the applicant used the word “*proposes*” (as opposed to, say, “*requires*”) reflects that multiplication is an *optional* solution, not a mandatory limitation. Unlike the language in *Minnesota*, this language does not purport to be—and plainly isn’t—a description of the *whole* invention. *See* 717 F.3d at 936. Indeed, the “Summary” section of the foreign application offers a far more “whole” description of the invention, and it makes *no mention whatsoever* of multiplication. Defs. Ex. 3, at 21-5. As a result, the language defendants rely on cannot be viewed as limiting the claims to scrambling by multiplication.⁸

DATED: November 13, 2019

Respectfully submitted,

By: /s/ Daniel J. Shih

⁸ As explained in Sol IP’s opening brief, a POSITA would understand that certain mathematical operations are equivalent depending on the notation used. Dkt. No. 206, at 17; Wells Rebuttal Decl. ¶¶ 111–119. Defendants do not contest this opinion and, aside from reiterating their argument based on the foreign application, take only procedural issue with it. Wells’s rebuttal declaration was served “within 30 days after the other party’s disclosure” and was therefore timely. Fed. R. Civ. P. 26(a)(2)(D)(ii); Haimovich Decl. at 47 & Wells Rebuttal Decl. at 55 (dates). Defendants never questioned its timeliness before, and they had every opportunity to depose Dr. Wells (which they declined) or offer rebuttal opinions (which did not in response to *either* of Dr. Wells’s declarations). Moreover, defendants do not contest its timeliness with respect to other disputed terms. And far from being “cursory,” Dr. Wells’s opinion is both explained in detail and supported. Wells Rebuttal Decl. ¶¶ 111–119; *id.* ¶ 117 n.5 (quoting treatise). That defendants take issue with his explanation, despite being unable to refute it, reflects the flimsiness of the noninfringement argument they are trying to set up with their strained construction.

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CERTIFICATE OF SERVICE

I hereby certify that on November 13, 2019, all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system.

/s/ Daniel J. Shih _____
Daniel J. Shih